

Amendments to the Claims

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A method of spatially aligning a single walled carbon nanotube in a selected orientation com

--1. (Currently Amended) A method of isolating single walled carbon nanotube structures, the method comprising:

mixing said structures in a solution including an effective amount of a dispersal agent to substantially disperse said structures within said solution;

wherein said dispersal agent is selected from the group consisting of detergents having a hydrophilic-lipophilic balance value no greater than about 13.2, deoxycholates, taurocholic acid, cyclodextrins, chaotropic salts, poloxamers, sapogenin glycosides, ~~ion-pairing agents~~, and combinations thereof.

2 (Original). The method of claim 1, wherein mixing said structures in said solution substantially separates said structures from contaminants in said raw material.

3 (Canceled).

4 (Original). The method of claim 1, wherein said dispersal agent comprises a detergent, and said effective amount of said detergent in said solution is no greater than about 95% of a critical micelle concentration of said detergent.

5 (Original). The method of claim 1, wherein said effective amount of said detergent in said solution is at least about 50% of a critical micelle concentration of said detergent.

6 (Canceled).

7 (Original). The method of claim 1, wherein said dispersal agent is a detergent selected from the group consisting of Nonidet P-40, Poloxamer 188, polyoxyethylene sorbitol esters, ammonium bromides and ammonium chlorides.

8 (Original). The method of claim 1, wherein said dispersal agent is selected from the group consisting of cyclodextrins, saponin and taurocholic acid.

9 (Original). The method of claim 8, wherein said effective amount of said dispersal agent is no greater than about 500 mg/ml.

10 (Original). The method of claim 8, wherein said effective amount of said dispersal agent is at least about 5 mg/ml.

11 (Original). The method of claim 1, wherein said dispersal agent is a cyclodextrin derivative selected from the group consisting of methyl- β -cyclodextrin and 2-hydroxypropyl- β -cyclodextrin.

12 (Original). The method of claim 1, wherein said dispersal agent is a chaotropic salt selected from the group consisting of urea and guanidine.

13 (Original). The method of claim 12, wherein the effective amount of said chaotropic salt in said solution is no greater than about 9M.

14 (Original). The method of claim 12, wherein the effective amount of said chaotropic salt in said solution is at least about 6M.

15 (Original). The method of claim 1, wherein said dispersal agent is a sulfonic acid, and said effective amount of said sulfonic acid in said solution is no greater than about 100 mM.

16 (Original). The method of claim 15, wherein said sulfonic acid is selected from the group consisting of 1-heptane-sulfonic acid and 1-octane-sulfonic acid.

17 (Original). The method of claim 1, further comprising:
separating said structures from said raw material in said solution by at least one of:
passing said solution through a filter to form a purified filtrate of said structures; and
passing said solution through a size exclusion column to form a purified solution of said structures.

18 (Original). The method of claim 17, wherein said filter includes a pore size no greater than about 0.20 μm .

19 (Original). The method of claim 1, further comprising:
centrifuging said solution at a speed in a range no greater than about 10,000xg to sediment said structures in said solution;
removing said structures from said solution; and
mixing said structures in a second solution to substantially disperse said structures in said second solution, wherein said second solution is substantially free of said dispersal agent prior to mixing with said structures.

20 (Currently Amended). A method of purifying single walled carbon nanotube structures embedded within raw material, the method comprising:

mixing said structures in a solution including an effective amount of a dispersal agent to to substantially separate said structures from contaminants in said raw material;

wherein said dispersal agent is selected from the group consisting of detergents having a hydrophilic-lipophilic balance value no greater than about 13.2, deoxycholates, taurocholic acid, cyclodextrins, chaotropic salts, poloxamers, sapogenin glycosides, ~~ion pairing agents~~, and combinations thereof.

21-36 (Canceled).--